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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,680	06/23/2003	Randolph C. Williams	6978-240/COB	7237
27572	7590	05/24/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			LEWIS, TISHA D	
			ART UNIT	PAPER NUMBER
			3681	
DATE MAILED: 05/24/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,680

Applicant(s)

WILLIAMS, RANDOLPH C.

Examiner

TISHA D. LEWIS

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

The following is a first action on the merits of application serial no. 10/601,680, filed on June 23, 2003.

Priority

For benefit claims under 35 U.S.C. 120, 121 or 365(c), the status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. _____" should follow the filing date of the parent application. As to this application, the status of the nonprovisional application should be inserted as patent no. 6,602,159.

Information Disclosure Statement

The information disclosure statement filed on June 23, 2003 has been acknowledged.

Specification

The disclosure is objected to because of the following informalities: On page 1, paragraph [0001], a bracket should be inserted before "International", as an indication that the phrase [International Application] should be deleted before publication. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronk et al ('407) in view of Bansbach et al ('957). As to claim 6, Bansbach et al discloses a transfer case including

an input shaft (60),

first and second output shafts (30, 40),

a reduction unit/planetary gear assembly (50) having an input member (sun gear 64) driven by the input shaft, an output member (carrier 74) driving the first output shaft and a reaction member (ring gear 62), wherein the reaction member rotation facilitates rotation of the input member,

a range clutch (52) fixed to the reaction member operable in a first mode (114 released with 150 engaged) to have the reaction member in rotation with the input shaft in a high range drive connection between the input (sun gear) and first output shaft (carrier) and operable in a second mode (engage 114 with release of 150) to brake rotation of the reaction member in a low range drive connection between the input (sun gear) and first output shaft (carrier),

a mode clutch (56) providing relative rotation between the first and second output shafts and preventing relative rotation between the first and second output shafts, and

a shift mechanism (42) for shifting the range and mode clutches between the different modes, but the mode clutch (56) is not in the form of a overrunning clutch to prevent relative rotation between the output shafts in both directions.

Ronk et al discloses a transfer case including

an input shaft (50),

first and second output shafts (18, 32),

a reduction unit/planetary gear assembly (52) having an input member (sun gear 64) driven by the input shaft, an output member (carrier 70) driving the first output shaft and a reaction member (ring gear 66),

a range clutch (54) establishing a high and low range drive connection between the input shaft and first output shaft,

a bi-directional overrunning clutch (58) operable in a first mode to permit relative rotation between the output shafts in a first direction and prevent rotation in a second direction (column 6, lines 47-50) and in a second mode to prevent relative rotation between the output shafts in both directions (column 7, lines 4-8), and a shift mechanism (60) for shifting the range and mode clutch between the different modes.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the mode clutch of Bansbach et al into a bi-directional clutch in view of Ronk et al to reduce cost and complexity of controlling friction plate clutches and providing various operating modes (Ronk et al, column 1, lines 49-53).

As to claims 4 and 9, Bansbach et al discloses a power operated actuator (pump and motor (240, 244) controlled fluid system) controlling movement of the shift

Art Unit: 3681

mechanism, a mode selector (46) permitting selection of the on-demand and part-time drive modes, and a controller (48) receiving mode signals to control the actuator.

As to claim 5, Bansbach et al discloses a power operated actuator, but does not disclose the motor as being an electric motor operating a cam and mode fork.

Ronk et al discloses a power operated actuator having an electric motor (88) driven in response to the controller of the shift mechanism, a cam rod (140) driven by the motor and a mode fork (170) connected between a mode actuator (172) and cam to shift between the different modes.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the power actuator of Bansbach et al into an electric actuator in view of Ronk et al to eliminate parasitic losses due to hydraulic fluid controls.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-47 of U.S. Patent No. 6,602,159. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present invention broadly claim (encompassed in) the limitations of the patent claims.

Claims 10-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,602,159 in view of U.S. application publication 20030195080. As stated above for claims 1-9, the claims of the present invention broadly claim (encompassed in) the limitations of the patent claims and the addition of the disconnect clutch in claims 10-34 of the present invention would provide an obvious double patent of the patent in view of the publication.

Allowable Subject Matter

Claims 10-34 would be allowed upon filing of a terminal disclaimer as stated above in the double patent rejection.

Claims 2, 3, 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and upon filing of a terminal disclaimer as stated above in the double patent rejection.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 872-9326 before final and 703-872-9327 after final.**

Art Unit: 3681

Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to
the Patent and Trademark Office (Fax No. (703) 000-0000) on _____ (Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Ronk et al ('407) used in the 103(a) rejection above discloses a transfer case having a disconnect clutch, but the clutch is used to disconnect the output shaft from the

Art Unit: 3681

front driveline, not from the transfer assembly as claimed in the present invention (claims 10 and 23).

-Mueller et al ('535) is cited as having a transfer case using a disconnect clutch, but the clutch is used to disconnect the output shaft from the front driveline, not from the transfer assembly as claimed in the present invention (claims 10 and 23).

-Showalter ('592) is cited as having a transfer case using a bi-directional clutch mounted to the first output shaft, but the clutch is not disposed between the transfer assembly and first output shaft as claimed in the present invention (claim 10).

-Dick ('604), Zalewski et al ('249), Brown et al ('977), Pritchard et al ('183), Forsyth ('182), Bowen ('866) and Li et al ('109) are cited as having a transfer case using bi-directional clutches for mode or range shifts.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to TISHA D. LEWIS whose telephone number is 703-305-0921. The examiner can normally be reached on M-Thur 8 AM TO 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHARLES A. MARMOR can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tdl
May 17, 2004


TISHA LEWIS
PRIMARY EXAMINER
AU 3681 5/17/04